Acetyl-cholinesterase enzyme inhibitory effect of *calophyllum* species

ABSTRACT

Purpose: To search for new acetylcholinesterase enzyme inhibitors from *Calopyllum* species.

Methods: Six stem bark extracts of *Calophyllum inophyllum, C. soulattri, C. teysmannii, C. lowii, C. benjaminum* and *C. javanicum* were subjected to anti-cholinesterase analysis against acetylcholinesterase (AChE) enzyme using Ellman's method.

Results: Most of the extracts showed promising inhibitory activity against AChE at concentrations of 100 µg/mL, with the methanol extract of *C. inophyllum* demonstrating the strongest inhibitory effect of 81.28 % followed by the methanol extract of *C. benjaminum* with 74.32 % inhibition. The methanol extracts of *Calophyllum inophyllum* and *Calophyllum bejaminum* also showed significant inhibitory activity towards the acetylcholinesterase (AChE) enzyme.

Conclusion: *Calophyllum* species is capable of yielding potential lead compounds for the development for acetyl-cholinesterase enzyme inhibition drugs.

Keyword: *Calophyllum* species; Acetylcholinesterase; Inhibitors